

**Notice of Allowability**

Application No.

10/743,591

Applicant(s)

FRIES ET AL.

Examiner

Art Unit

Thu Nguyen

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on November 28, 2006 & the enclosed examiner's amendment.
2. ☒ The allowed claim(s) is/are 1-5, 7-17, 23-25, 27-32 (now renumbered as claims 1-25).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. This examiner's amendment amends claim 1, 29-32 in conformance with the remarks on page 14, 3<sup>rd</sup> paragraph of the amendment submitted on November 28, 2006 in which claim 6 is incorporated to claim 1 and claims 29-32 are reinstated from the canceled claims 19-22. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

**In the claim:**

Please replace claim 1 with the following:

1. (Currently Amended) A train detection system for detecting the presence and/or position of a railway vehicle within a detection area of a railroad track, the railroad track having a pair of rails and an identified impedance within the detection area, and wherein the presence and/or position of the railway vehicle within the detection area changes the impedance of the track, said train detection system comprising:

a first transmitter connected to the rails of the railroad track for transmitting along the rails a first signal having a predetermined magnitude and a predetermined operating frequency;

a receiver connected to the rails for receiving the first signal;

a first data acquisition unit coupled to the first transmitter and the receiver and responsive to the transmitted first signal and the received first signal to generate first

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multiplexed analog signal representing the transmitted first signal and the received first signal, wherein the first data acquisition unit includes:

a first feedback circuit for detecting a first transmitted voltage signal applied to the rails via the first transmitter, a first current signal transmitted along the rails via the first transmitter, and a first received voltage signal received by the receiver;

a first filter coupled to the first feedback circuit for filtering the detected first transmitted voltage signal, the detected first transmitted current signal, and the detected first received voltage signal; and

a first multiplexer coupled to the first filter for multiplexing the filtered first transmitted voltage signal, the filtered first current signal, and the filtered first received voltage signal to generate the first multiplexed analog signals, and wherein the processor calculates the impedance in the approach detection area as a function of the difference between first transmitted voltage signal and the first received voltage signal, and the first transmitted current signal;

a first converter for converting the first multiplexed analog signal into a plurality of first digital signals corresponding to the transmitted first signal and the received first signal; and

a processor responsive to the first digital signals for processing the first digital signals to determine the frequency and magnitude of the transmitted first signal and the received first signal.

In claim 29, line 1, replace "claim 18" with - claim 28 -

In claim 30, line 1, replace "claim 18" with - claim 28 -

In claim 31, line 1, replace "claim 18" with - claim 28 -

In claim 32, line 1, replace "claim 21" with - claim 31 --

### **Drawings**

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **Specification**

On page 4 of the Amendment filed on February 28, 2006, the applicant mistakenly requests replacing paragraph [0077] with a new paragraph. The replacement requested should be applied to paragraph [0074] instead. Therefore, the examiner requests that paragraph [0077] be remained as originally filed. Paragraph [0074] should be replaced with the amended specification stated on page 2 of the amendment submitted on November 28, 2006.

### **Reasons for Allowance**

Refer to the Reasons for Allowance stated in the Office Action mailed on August 28, 2006.

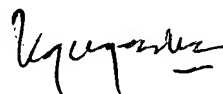
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 23, 2006



**THU V. NGUYEN**  
**PRIMARY EXAMINER**

